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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,969	01/28/2002	Ken Saito	AETE.0003	6700

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EXAMINER

DI GRAZIO, JEANNE A

ART UNIT PAPER NUMBER

2871

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,969

Applicant(s)

SAITO ET AL.

Examiner

Jeanne A. Di Grazio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/28/02 (Prelim. Amend.).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Priority to Japanese Patent Application No. 2001-039522 (Feb. 16, 2001) is claimed.

Preliminary Amendment

1. Preliminary Amendment of Jan. 28, 2002 has been received and noted and the claims have been examined in light of said Amendment.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), and Koike et al. (US '364 B1) in view of Fukayama et al. (US 2001/0019377 A1).

Per claims 1 and 4 and 13: Sasakura has a transparent sheet member between a scattering member acting as a diffuser or diffusion sheet and a light source (Figure 13). Both transparent sheet member and scattering member have similar contours / dimensions (Figure 13). Sasakura does not appear to have at least one optical sheet contacting a diffusion plate; however, Abileah has an optical film adhered or affixed to a diffuser via an adhesive (Col. 14, Lines 52-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Abileah to provide a viewer of the display with high contrast ratios at extreme viewing angles, low ambient light reflectivity, high resolution, little or no color

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shifting, and substantially no gray scale inversion as well as enlarged viewing envelope as noted in Abileah (Col. 13, Lines 32-55).

Sasakura does not appear to have respective major portions or respective whole portions of four sides of the transparent sheet adhered to the diffusion plate; however, Koike has a method of fixing the transparent plate and diffusion plate by adjoining ends of the transparent plate and diffusion plate (Col. 23, Lines 3-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Koike for uniform brightness and to prevent light leakage.

Sasakura does not appear to have a rectangular diffusion plate between a LCD element and light source and at least an optical sheet between diffusion plate and LCD element; however, Fukayama has these elements [0026]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Fukayama for a direct backlight type light source [0026].

Per claims 2 and 12: Sasakura does not appear to have the whole four sides of the transparent sheet adhered to the diffusion plate; however, Koike has ends of the transparent plate and diffusion plate pressed together (Col. 23, Lines 3-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Koike to prevent light leakage.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), Koike et al. (US '364 B1) and Fukayama et al. (US 2001/0019377 A1) in further view of Odille et al (US '661 B1).

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Per claim 3: Sasakura does not appear to have adhesion of a transparent sheet adhered to a diffusion plate using a pressure sensitive adhesive double-sided tape or tacky adhesive agent; however, Odille has a mounting via an adhesive substance (Col. 1, Lines 48-55 and Col. 6, Line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Odille for manufacturing ease since the use of pressure sensitive tapes and tacky adhesives for mounting optical films is commonly done in the art for manufacturing ease and because such adhesive means are easy to find.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), Koike et al. (US '364 B1) and Fukayama et al. (US 2001/0019377 A1) in further view of Ode et al. (US '946 B2).

Per claim 5: Sasakura does not appear to have the LCD including a spacer that restricts a warping of the diffusion plate; however, Ode has a spacer which prevents deforming of the diffusion sheet (Col. 18, Lines 15-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Ode to prevent damage to and warping of a diffusion plate when such a plate is in proximity to other optical elements.

Per claim 6: Sasakura does not appear to have at least one optical sheet contacting a diffusion plate; however, Abileah has an optical film adhered or affixed to a diffuser via an adhesive (Col. 14, Lines 52-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Abileah to provide a viewer of the display with high contrast ratios at extreme viewing angles, low ambient light reflectivity, high resolution, little or no color shifting, and substantially no gray scale inversion as well as enlarged viewing envelope as noted in Abileah (Col. 13, Lines 32-55).

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Claims 7, 8, 10, 11, 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), Koike et al. (US '364 B1) and Fukayama et al. (US 2001/0019377 A1) in view of Ode et al. (US '946 B2).

Per claims 7, 14, 15, and 17: Sasakura has a transparent sheet member between a scattering member acting as a diffuser or diffusion sheet and a light source (Figure 13). Both transparent sheet member and scattering member have similar contours / dimensions (Figure 13). Sasakura does not appear to have at least one optical sheet contacting a diffusion plate; however, Abileah has an optical film adhered or affixed to a diffuser via an adhesive (Col. 14, Lines 52-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Abileah to provide a viewer of the display with high contrast ratios at extreme viewing angles, low ambient light reflectivity, high resolution, little or no color shifting, and substantially no gray scale inversion as well as enlarged viewing envelope as noted in Abileah (Col. 13, Lines 32-55).

Sasakura does not appear to have respective major portions or respective whole portions of four sides of the transparent sheet adhered to the diffusion plate; however, Koike has a method of fixing the transparent plate and diffusion plate by adjoining ends of the transparent plate and diffusion plate (Col. 23, Lines 3-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Koike for uniform brightness and to prevent light leakage.

Sasakura does not appear to have a rectangular diffusion plate between a LCD element and light source and at least an optical sheet between diffusion plate and LCD element; however, Fukayama has these elements [0026]. It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to modify Sasakura in view of Fukayama for a direct backlight type light source [0026].

Sasakura does not appear to have a spacer that restricts warping of the diffusion plate; however, Ode has a spacer which prevents deforming of the diffusion sheet (Col. 18, Lines 15-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Ode to prevent damage to and warping of a diffusion plate when such a plate is in proximity to other optical elements.

Per claim 8: Sasakura does not appear to have whole or major portions of four sides of the transparent sheet adhered to the diffusion plate; however, Koike has ends of the transparent plate and diffusion plate pressed together (Col. 23, Lines 3-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Koike to prevent light leakage.

Per claim 10: Sasakura does not appear to have at least one optical sheet contacting a diffusion plate; however, Abileah has an optical film adhered or affixed to a diffuser via an adhesive (Col. 14, Lines 52-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Abileah to provide a viewer of the display with high contrast ratios at extreme viewing angles, low ambient light reflectivity, high resolution, little or no color shifting, and substantially no gray scale inversion as well as enlarged viewing envelope as noted in Abileah (Col. 13, Lines 32-55).

Per claim 11: Claims 7 and 11 read the same except for the limitation of the whole surface of the transparent sheet adhered to the diffusion plate instead of at least respective portions of four sides of the transparent sheet are adhered to the diffusion plate as in claim 7. The

rejection of claim 7 applies to that of claim 11. Applicant is directed to note the in Sasakura, the transparent sheet is bonded to the diffusion plate (Col. 12, Lines 18-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to bond the whole surface of the transparent sheet to the diffusion plate to prevent bubbling and contamination of the optical elements which may occur when such elements are not completely attached to each other via their respective surfaces.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), Koike et al. (US '364 B1), Fukayama et al. (US 2001/0019377 A1) and Ode et al. (US '946 B2) in further view of Odille et al. (US 661 B1).

Per claim 9: Sasakura does not appear to have adhesion of a transparent sheet adhered to a diffusion plate using a pressure sensitive adhesive double-sided tape or tacky adhesive agent; however, Odille has a mounting via an adhesive substance (Col. 1, Lines 48-55 and Col. 6, Line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Odille for manufacturing ease since the use of pressure sensitive tapes and tacky adhesives for mounting optical films is commonly done in the art for manufacturing ease and because such adhesive means are easy to find.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasakura et al. (US '951), Abileah et al. (US '784), Koike et al. (US '364 B1), Fukayama et al. (US 2001/0019377 A1) and Ode et al. (US '946 B2) in view of Odille et al. (US '661 B1).

Per claim 16: Sasakura does not appear to have adhesion of a transparent sheet adhered to a diffusion plate using a pressure sensitive adhesive double-sided tape or tacky adhesive agent; however, Odille has a mounting via an adhesive substance (Col. 1, Lines 48-55 and Col. 6, Line

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20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasakura in view of Odille for manufacturing ease since the use of pressure sensitive tapes and tacky adhesives for mounting optical films is commonly done in the art for manufacturing ease and because such adhesive means are easy to find.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (703)305-7009. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-8741 for regular communications and (703)746-8741 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Jeanne Andrea Di Grazio

Robert Kim, SPE

JDG

March 28, 2003


TOANTON
PRIMARY EXAMINER